Panel: Industry Viewpoint of Forest Entomology Research

Moderator: Jack E. Coster

Panelists: Norman E. Johnson and George Stanley

Implicit in the title of the panel is the idea that there is an industry viewpoint of research that is different from State or Federal viewpoints. Although industrial and non-industrial research have most general aspects in common, a primary attribute of industrial research appears to be the preponderance of "applied" research projects, often of relatively short duration. Contrast this with Federal research where there is thought to be a significantly higher proportion of "basic" projects of longer duration.

Those in research are quite interested in receiving some feedback from the timber industry on forest entomology programs. Timber industry is one of the major users of forest insect research. The panel of forest industry experts gave some views of current research in forest entomology as well as their views on future research needs and comments on ways in which industry itself might support research.

Norman Johnson

A primary goal of forest entomology investigation should be involvement in impact analyses for the major forest insect pests in the South. Such impact studies may result in re-orientation of research priorities. The need to change our thinking as to the relative importance of growth-loss and

mortality was also emphasized. It was pointed out that a 10% growth-loss in pine stands may well be as important economically as a 1% mortality loss. Foresters and entomologists have been swayed in their planning by insects causing mortality to the detriment of research input on insects causing only growth-loss. For example, the pine tip-moth which causes little mortality in southern pine stands may be as important southwide as is the southern pine beetle which does cause direct mortality.

Many research priorities have been based on merchantability standards that are no longer applicable. Many standards of timber merchantability have changed but insect studies have been based on old standards. It is recommended that foresters and entomologists re-examine ongoing research projects to determine whether the insect pests being studied are indeed still pests.

A major demand of the industrial manager from any research program is the production of immediate results in the solution of a problem. In relation to forest entomology it is recommended that results can be increased by the following actions:

1. The formation of action teams consisting of persons from various disciplines. The teams are formed to attack a specific problem and should be dissolved when the problem has been solved.
2. Researchers should attempt to reduce the administrative and geographic barriers that often exist in university and Federal research organizations. A greater interplay between disciplines as well as between

researchers in various geographic areas would increase the effectiveness of all research programs.

3. University and Federal researchers appear to engage in many "ego" activities that are unnecessary as far as the advancement of scientific knowledge is concerned. A prime example of such ego activity is the publishing efforts of university and Federal researchers. A significant proportion of such personnels' time is spent in preparing and publishing papers that, by the time they appear in print are no longer timely.

George Stanley

Timber industries in East Texas initiated pest action councils and aerial detections for southern pine beetle in the early 1950's. An epidemic in 1962 emphasized to the Texas industries that research knowledge necessary for the control and management of the southern pine beetle was not sufficient. A number of the timber companies in East Texas established the Southern Forest Research Institute during the same year and contracted with the Boyce Thompson Institute for Plant Research, Incorporated to carry out certain basic aspects of research on the southern pine beetle. This research was supplemented by the observational data on southern pine beetle damage and stand relationships that had been gathered by some of the timber

companies, primarily the Kirby Lumber Company.

In 1972 the Kirby Lumber Company synthesized recent research on the southern pine beetle and their experience with the beetle into a management system for application to their ownership. The Kirby Southern Pine Beetle Control System relies on:

1. A cooperative effort with all landowners, organizations and public bodies in preventing and bringing about minimum losses to the forestry source.
2. Natural controls for reduction of the southern pine beetle and a utilization of chemical controls only as a last resort.
3. Salvage of southern pine beetle infestations as the primary field action.
4. A supplementation of slavage control by frontalure and cacodylic acid in certain situations.
5. Development of detection and monitoring systems to track the performance of the control program.
6. Constant monitoring of available research and updating the overall control system.

Forest entomologists are challenged to spend more time on research problems and less time on personal grudges. Too much interpersonal reaction has been evidenced in the area of bark beetle research.

Workshop: Application of Pheromones in Bark Beetle Pest Management

Moderator: Jack E. Coster

For discussion purposes it was suggested that the various strategies for application of pheromones in bark beetle pest management were:

1. Trap-out
2. Baited tree
    a. Physiologically unsuitable (thin phloem, unsuitable bark, etc.)
    b. Non-host
    c. Chemically treated
        (1) Poisoned
        (2) Altered (cacodylic acid)
3. Confusion

David Wood presented the program of University of California, Berkeley and U.S. Forest Service on evaluation of pheromones for the western pine beetle using trap-out techniques. Approximately 75% of the emerging western pine beetle population was estimated to have been caught in pheromone traps in one study. The primary potential of pheromones with western pine beetle is thought to lie in trap-out and confusion strategies. Tom Payne, Texas A&M University, presented some preliminary field results of the cooperative southern pine beetle study between Texas A&M University, Stephen F. Austin State University, and the U.S. Forest Service (Southern Forest Experiment Station).

Trapping of southern pine beetle in meaningful quantities using either natural pheromone sources or synthetic pheromones has been difficult except in areas adjacent to southern pine beetle infestations.

Considerable discussion revolved around the potential of pheromones in the actual control of bark beetle populations. It was generally agreed that the real usefulness of pheromones in bark beetle pest management cannot be evaluated until further studies of insect populations and insect pheromones are completed.